SPECIFICATION

Blast Resistant Doors and Frames

Part 1 - General

1.1 Scope

a) **Scope of work:** Furnish all blast resistant door and frame assemblies as required.

b) **Blast Safety Requirements:** The Deansteel or equal door and frame assembly will meet a Blast Resistant level up to _____ *(specify 0.5 to 25.0)* pounds per square inch seated, and with a rebound response/unseated load of _____ *(specify 0%, 50% or 100%. If unseated/rebound response is not required, enter 0%.)*, and an impulse duration of _____ milliseconds *(if only static loading is specified, omit the impulse duration part of this statement)*. Unless otherwise specified, the blast resistance response of all assemblies shall be a Category II – Limited permanent deformation but the door remains in the frame and is still operable.

c) **UL Fire Rating Requirements:** The door and frame assembly by Deansteel Manufacturing or equivalent manufacturer can be UL rated from 20 minutes to a 3 hour rating. The rating is subject to the glazing requirements of the door specified.

1.2 Quality Assurance

a) **Experience:** The manufacturer of these products shall have a minimum of five years experience in producing blast resistant hollow metal doors and frames.

b) **Performance:** Work provided for this section shall be designed and manufactured by one company.

c) **Blast Resistance Requirements:** The design of all products shall have been analyzed and/or full scale prototypes actually tested to meet the blast resistance requirements in 1.1.b.

d) **Fire Rating Test Requirements:** Door/frame assembly designs shall have been tested and must meet the level of protection specified in section 1.1.c UL Fire Rating Requirements by an independent laboratory to UL 10b and UL 10c.

1.3 Submittals

a) **Submittal Drawings:** Shall include a Door and Frame Schedule identifying the location of each door and frame opening in relation to the floor plan/layout provided. Elevation drawings shall illustrate the frame profiles, sizes, anchor type, glass thickness and glass type. The Submittal Drawings must be

submitted to the architect/owner for approval prior to fabrication of the door and frame assemblies.

b) **Blast Safety Compliance:** The manufacturer of the door and frame assembly must have either an official report of the design analysis from an accredited, internationally recognized firm that specializes in Blast analysis, or a test report documenting blast testing of a prototype assembly that specifies compliance with the protection level specified under section 1.1.b.

c) **UL Fire Rating Compliance:** The manufacturer of the door and frame assembly must have an independent test report from an accredited, licensed agency. The test report information must specify compliance with the protection level specified under section 1.1.c. UL Fire Rating Compliance.

d) **Installation Manuals:** One (1) copy will be sent with first shipment.

1.4 Steel Standards

a) **ASTM A1008:** Steel Sheet, Cold Rolled, Commercial Quality.
b) **ASTM A653:** Galvannealed Steel.
c) **ASTM A666:** Stainless Steel Type 304 or 316.

1.5 Warranty

Deansteel Manufacturing or acceptable manufacturer will provide a LIMITED WARRANTY against defects in materials and/or workmanship for a period of one (1) year from date of delivery to the job site or fifteen (15) months following shipment from the manufacturer's factory.

Part 2 – Products

2.1 Materials

Blast resistant door/frame assemblies shall be manufactured with materials consistent with the blast threat level specified by the architect or the end user. The door and frame construction shall be as follows based on the blast pressure and impulse requirements established on section 1.1.b Blast Safety Requirements and/or any properly promulgated blast resistant specification (e.g., UFC 4-010-01).

(Select the rating required and omit those that do not apply.)

DSLB-1 –Low Level Blast (1.0 psi or less):

- Material: 18 gauge door with a 14 gauge frame. Door and frame material is available in cold rolled, galvannealed, or stainless steel.
- Core: Polystyrene slab.
- Hardware: Door and frame assemblies prepared for standard Grade 1 builders hardware.
- Door designs with glass visions are acceptable, up to a full glass opening.

DSLB-3 – Medium Level Blast (greater than 1 psi and less than 10 psi):

- Material: 14 gauge door with a 12 gauge frame. Door and Frame material is available in cold rolled, galvannealed, or stainless steel.
- Core: Steel stiffened core shall be Deansteel Manufacturing's standard proprietary material and design. Doors are insulated with Rockwool insulation for its thermal and sound deadening qualities.
- Hardware: Hinges will be 5 x 4 ½" heavy duty. The use of a single point lock is acceptable without a rebound response specification. *(A 3-point lock may be required if a 50% or 100% rebound response is specified or a high blast impulse load is specified.)*
- Door designs are available as standard flush or with a small vision light.

<u>DSTB – High Level Blast (greater than 10 psi):</u>

- Material: 12 gauge door with a 10 gauge frame. Door and Frame material is available in cold rolled, galvannealed, or stainless steel.
- Core: Steel stiffened core shall be Deansteel Manufacturing's standard proprietary material and design. Doors are insulated with Rockwool insulation for its thermal and sound deadening qualities.
- Hardware: Hinges will be 5 x 4 ½" heavy duty. The use of a single point lock is acceptable without a rebound response specification. *(A 3-point lock is required if a 50% or 100% rebound response is specified.)*
- Door designs are available as standard flush or with a small vision light.

2.2 Construction

a) All work shall be strong, rigid, and neat in appearance; square, true, and free of defects, warp, or buckle.
b) Frames shall have trim faces welded and finished smooth.
c) All doors and frames are to be thoroughly cleaned and prime painted to inhibit corrosion.
d) Door and frame assemblies will be manufactured in strict accordance with designs and specifications used to fabricate units analyzed and/or tested by independent laboratories as required under the Quality Assurance portion of this Specification.

2.3 Glazing

a) Glazing shall be supplied that will provide at least GSA Performance Condition 3a (Very Low Hazard Level), or ASTM F1642-04 Hazard Rating of 'Very Low Hazard'.
b) All Glazing will be properly installed by Deansteel Manufacturing.

Part 3 – Shipping and Handling

a) Door and frames will be packed and crated for shipment as per standard domestic shipping procedures.
b) Doors and frames shall be received by the contractor at the job site and inspected upon delivery for any damage. Any minor damages may be field repaired provided it meets the acceptance of the owner/architect.
c) Doors and frames shall be stored upright in a protected area on wood runners or skids in a cool dry place.

- Wood runners must be a minimum of 4” in height in case of any standing water.
- Place a ¼” spacer between stacked doors and frames to allow for proper air circulation.
- Doors and frames must be protected from weather and humidity by well ventilated canvas or plastic covering.
- Any cardboard wrapper that becomes damp or wet must be removed.

d) Doors and frames shall be F.O.B. Deansteel Manufacturing - San Antonio, Texas or other manufacturer’s location.